RP

# University of Hawaii at Manoa

**Environmental Center**
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

October 6, 1983
RP:0029

Department of Health
Environmental Protection and Health
Health Services Division
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Sir:

NPDES Permit No. HI0000612
Samuel Mahelona Memorial Hospital
Kapaa, Kauai

Thank you for the opportunity to review the above cited NPDES permit application. Our Environmental Center review has been prepared with the assistance of Roger Fujioka, Water Resource Research Center; Alexander M. Dollar, School of Public Health; Jacquelin Miller and Mark Ingoglia, Environmental Center. The following comments are offered for your consideration.

## Hospital Wastes

We assume that infectious solid or semi-solid wastes (such as bacteriological cultures) will be autoclaved or incinerated prior to disposal and that the NPDES permit will apply only to liquid sewage wastes. If not, an unusually high load of pathogens in the hospital wastes can be expected as compared to normal domestic wastes.

## Proposed Sewage Treatment Process

Sewage treatment systems utilizing an aeration lagoon, sedimentation lagoon, and chlorination are known to be relatively inefficient processes in terms of removal of pathogenic microorganisms and particulate matter. Therefore, the final treated sewage effluent can be expected to contain high concentrations of organic and particulate matter as well as a high potential for infectious hospital wastes. Heavy rainfall can cause sufficient inflow of storm water to overload the treatment system (as has been experienced on Oahu) and can result in inadequately treated sewage being discharge into the nearshore waters with the potential for adverse public health effects. From the information available to our reviewers the potential probability for this problem occuring is not clear.

Subsurface Injection

The history of injection well performances is plagued with clogging. This finding was cited at the recent workshop "Wastewater Management for Small Communities Workshop: Land Disposal and Waste Injection", July 14 and 15, 1983 sponsored by state offices including DOH. The combination of a high potential for well clogging, frequent power outages and high rainfall may greatly increase the probability of discharges into Class A recreation waters.

Conclusion

Careful analysis of the above cited concerns is needed to determine whether the wastewater to be discharged is adequately treated and if the requested permit should be approved due to the possibility of health related impacts on Class A waters resulting from injection well failure. Since our information was so limited, we were unable to assess the size of the area serviced (number of units) the potential for exclusion of surface runoff or the previous history of coastal water quality. We suggest that these issues need to be considered in making the determination as to whether the NPDES Permit No. HI0000617 should be issued.

Yours truly,

Doak C. Cox
Director

cc: Alexander Dollar
Roger Fujioka
Jacquelin Miller
Mark Ingoglia